



NO 6 1949

PLAN

125. RD
Think back to childhood.
Remember the terror and the mystery—
The world intangible, remote.
And yet within it the perfect world of home.
Magic lantern tinsel and Christmas tree bauble,
The security of bed and food, the warmth of mother.
And yet within the perfect circle of maternal love
The magic of machines—the threat—
Magic lantern, Christmas tree bauble, and Clock.

The Clock beating as your own heart beats,
Telling the hour of food and sleep, the hour of mother.
Remember again the threat of the Clock.
How you sought the mystery within it—the key to the world.
How you took it and tore the meaning from it.
Dismembered it, searching for its secret, the magic of its dance.
Searching for its power over bed and food and mother.

You stopped the dance of pendulum and wheel,
You broke the heart of the Clock,
The ritual of its hands.
And it lay spilt in meaningless atoms around you
Wheels rocking gently to a standstill.

1125
Mystified and hurt you gazed into the sun.
The spring unfurled lay lifeless in your hands.
Perfection spoilt, the mystery unapproached,
You are confronted by the fact of death,
The terrible burden of regret.

If only you had loved it.
If only you had sought its mystery
In its life, its wholeness,
And not in its destruction . . .

think back



beginning

Food, shelter, and love are primary needs of man.

Without them we cannot exist.

It is in the active provision for these needs that we fulfil our natural functions, turning existence into life.

Whenever we have failed to satisfy these needs and have repressed these natural functions, misery and suffering, war and strife have been the inevitable results.

Chaos springs directly from our inability to see the world as a whole, and our refusal to accept change as an essential part of the process of living.

The outward forms of our society reflect this resistance to change; we invest church and state with divinity, and change becomes a heresy, a treason.

Our cities continue to sprawl over the earth, the harbours of dirt and disease; the village has been left to die.

Growth and expansion are unco-ordinated.

We rape the soil to provide food.

We build slums and suburbs to provide shelter.

Our need for love seeks fulfilment in pornography.

Chaos is everywhere.

All this we continue to accept.

We resign ourselves to the worst human evils and we remain apathetic to poverty and cruelty.

Chaos grows, and with it ignorance, disease and fear: fear of change, fear of responsibility, fear of life.

We delegate our responsibility to specialists who, safe behind the barriers of class, institution, profession, become isolated from each other, powerless to see anything but their minute piece of the puzzle which is our life.

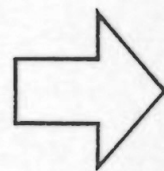
Chaos is complete.

This is our world.

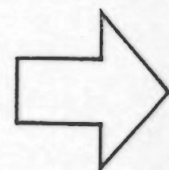
In the first part of *PLAN*, pages 4 to 15, our concern is to illustrate in the fields of building, architecture, and education, the process of breakdown. This we see in the individual in his *isolation*, and in society in its *dissociation*.

In the second part, pages 18 to 29, we attempt to re-orientate our minds towards the process of growth and life—the ever-changing relationships of individual, community, and the environment. These relationships, still seen through building, architecture, and education, we symbolise in the word *integration*, as opposed to dissociation, and we say that the many relationships evident within it are identified by their *differentiation*, as opposed to their isolation, from each other.

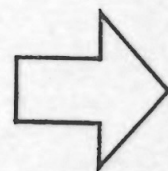
building



architecture



education



"Thought is born of failure"

The building industry has failed. Our population is increasing, while our houses decay—many are slums fit only for demolition. Every year 630,000 new homes are needed, but in fact only 250,000 are being built. Even this meagre total is a false one since it includes repairs to blitzed houses and squatters' huts, the building of temporary houses, and the patching up of slums.

We must know why an industry of two million workers—one in five of the insured working population—is utterly incapable of satisfying the basic human need of shelter for family and community life.

At present in this country building is being neglected in favour of the industries which serve trade and war. Domestic and community building does not contribute directly to these functions and is, therefore, isolated in the national economy.



The architect has failed. He has failed because he is isolated. He is isolated by his education which is an education for independence; he is isolated in a sea of facts which are unrelated to his life or to other facts; he is isolated from the people for whom he is building because he does not share their ways of thinking or feeling, nor they his.

The architect's education is seldom more than a passing acquaintance with many fields of knowledge, each treated separately, each stated in terms of form—measurement, volume, and density; lighting, heating, materials, structure, and construction; history—a past separated from the present, in a view of time which is simply a catalogue index for a form, symbolised in a date.

Each field of knowledge excludes the others on many points. None has a basic relationship with the others. A vain attempt is made to link them together in yet another field of knowledge called design—the formal technique of compromise. This compromise excludes any possibility of directing architectural education towards the achievement of an architecture of people—an architecture in community; the expression of men, women and children living together.

Education teaches a few facts in a desperate attempt to teach all facts. The tempo accelerates continually, facts are added to facts—saturation is reached. Overwhelmed by a confusion of knowledge, each category excluding the others, man is cut off from man; he can neither comprehend relationship nor admit dependence.

Architecture is isolated; the isolated product of an isolated mind in an isolated body.

Education has failed: if education is the process whereby we come to a full awareness of our capacity for living and to an understanding of the material and human environment in which we live, then education is inseparable from living. With the rapid expansion of mechanisation during the last two centuries and its effect on commerce, industry, and living and working conditions, this truth has been blatantly contradicted and denied. Society has produced a special "organ"—the educational system—which resembles in its organisation, its buildings, and its production methods, the industrial factory organisation which it provides with "hands".

There is a split between education and the lifelong development of the individual. This is naturally most marked at the stage of fastest development—that of the child—but it remains a fundamental division through the life span. The significance of education has thus been lost. It has ceased to be a factor in the general development of man towards wholeness and is now isolated—in time, by being almost entirely concerned with children up to the age of fifteen, and in space by being segregated from the living environment in schools which are often like prisons.

Building to-day is uneconomic and contrary to human requirements. While shelter and food are the basic material needs of man, building, followed closely by agriculture, is the most backward of our industries. Its inefficiencies and bad organisation result in costs that are alien to our economy. Materials could be half their present cost. They are produced without relation to demand and this adds to the slowness of building operations.

Economy cannot, however, be measured only in terms of cost and quantity. Contemporary buildings do not meet the complex requirements of contemporary life. The family to-day requires highly flexible space for living in. But our houses are still scaled-down models of eighteenth-century country houses. Community life is essential for the life and development of the person and family. No sort of community is possible within suburbia or the apartment block. Whether one lives in town council semi-detached or county council concrete barrack, isolation is complete.

Neither the architect nor any man can bear isolation—he cannot live in a world where he recognises his complete isolation from his environment and from other men. In society to-day he must cheat himself into a belief of communion by establishing arbitrary forms of society. He is a member of a class or a profession, of a Whitehall department or a Pall Mall club—the spectral shapes of community, apparitions of loneliness.

Where some architects find faint pulsations of departing life they seize upon that place. “We have found life!” they cry. But they have found a specialisation.

They detect life in communities which have preceded them. They seize upon the form of those communities, equate them with their knowledge of materials—how they are put together—and produce the architecture of revival; but by embracing the dying body they have extinguished the last remaining trace of life.

Frustrated in his search for community and his essential relation with people, the architect can only turn inward, to the factual knowledge at his disposal. He leaves architecture and becomes a specialist in heating, sanitation, or lighting, or an expert in abstract form.

They are taking the house of the architect to pieces like brokers’ men.

Those who remain architects in name also turn inward, this time upon their own faculties. They have reached an ultimate specialisation. They become visual specialists concerned only with shape and their architecture becomes divorced from the needs of society.

The split between the educational “system” and the rest of society has meant that education has become increasingly ineffective and has failed to make its proper contribution to social development.

The aim of those concerned with education has presumably been to prepare children for life. The interpretation of the word “life”, and the aspects of it which have been stressed in education have been as wide and diverse as have been the number of different people who have seen fit to concern themselves with schooling. Whichever interpretation they have stressed, they have all tended to make the same mistake of preparing children for life by isolating them from it in a school.

The more serious effect of this isolation has been that the children and students have been unable to make that real contribution to the growth and development of society which by their nature they are fitted to do. Society has deprived itself of the clear vision, the simplicity of outlook and the zest for life which are to-day rarely found except in children and young people. The architectural profession and the building industry are no exceptions to this generalisation.



The building group has broken down. The buildings produced reflect the contradictions which exist in the process of building.

The craftsmen and labourers on the job have little or no influence on the designs which they have to carry out. No effective channels of communication exist between hand and mind experience. The craftsman may not speak directly to the architect's representative on the site—the clerk of works. First he must approach the foreman, who in turn must speak to the clerk of works, who will have to refer the matter back to the architect's office where he will not always contact the person who designed or detailed the part in question. In these circumstances, it is extremely unlikely that any building worker will be so enthusiastic about his work that he will make any attempt to communicate through these barriers. The building contractor himself may often have constructive comments to offer, but "it is not his place" to criticise the architect. If he did he would end by losing contracts.

The breakdown of the external relations of architecture in the building group reflects the divorce of architecture from society.

"Art is man's expression of joy in labour", wrote William Morris. But the architect finds himself in a society which maims and crushes human beings because it denies to most of them the possibility of human expression in everyday work. In the isolation of his office the architect attempts to forget this. But, sometimes unknown to him, sometimes reflecting itself in his uneasy conscience, this external social and economic chaos intrudes, and kills his joy in labour. As his art is divided from life, so is his thinking from his feeling, his theory from his practice.

William Morris, who was trained as an architect and worked for a short time in Street's office, and spent most of that time copying a drawing of a doorway in a Canterbury church, was one of the first to perceive this profound failure in society, which has become even more acute since his time. He realised the responsibility of the architect and the impossibility of fulfilling it in a divided society. "Morris gave

up architecture", said his friend, Philip Webb, "because he found he could not get into close contact with it, it had to be done second-hand". Morris saw architecture as the physical expression of man's creative ability in its highest form: "*It embraces the consideration of the whole external surroundings of the life of man; we cannot escape from it if we would, so long as we are part of civilisation, for it means the moulding and altering to human needs of the very face of the earth itself*".

The architect who can recognise this finds his mind divided. Only through striving consciously to bring about the reconciliation of man and machine, of art and life, can he begin to resolve this dilemma. It is rare, however, to find any recognition in the contemporary architect of the paradox of his position. He dare not face up to it for it implies the end of his false security, his narrow specialisation in vision. It implies life and growth and the need for an accurate and careful interpretation of the needs of his fellow men. It implies an effort to end the external social and economic chaos. It implies that he must be a creator.

The "educational system" suffers not only from a general isolation from the rest of society. It also suffers internally from being broken up into countless separate fragments. The Ministry of Education, the Home Office, the various churches, benevolent societies, county and borough councils, and boards of governors all have a finger in the educational pie. There are State schools, Church schools, private schools, public schools; schools for bad boys, rich boys, poor boys; infant schools and junior schools; technical, modern, and grammar schools; day schools, night schools, and day-continuation schools; and, of course, special schools. In a dissociated society there will be many special schools.

The most serious of the segregations within these fragments is the segregation of sexes. Especially in the case of boarding schools homosexuality is encouraged by herding children of one sex together in the artificial environment of a school and denying them the companionship of children of the other sex. And homosexuality is only one symptom of the fundamental and life-long neurosis which derives from this early unbalance. The fact that many teachers are unmarried contributes to the authoritarian and neurotic atmosphere of

so many schools. No-one seems yet to have had the courage to collect statistics on the wastage of teachers through so-called nervous breakdown—the polite name for the final collapse of the psychopath.

With this great variety of school types, many tending to compete with each other in "producing the goods", an examination system provides an invaluable yard-stick. The curious thing is that none of the yard-sticks is the same. There are nearly as many examination boards as there are universities, and it is not unheard of for a school to change its examining university in order to improve the appearance of its results. Teachers are handicapped by the difficulty of moving from one type of school to another. The stimulating flow of fresh teachers and fresh ideas between school and school is often prevented. The teacher embeds himself even deeper in his rut for the sake of financial security. For children on the other hand changes from school to school can be very unsettling, and they will be lucky if they do not pass through three, if not four, of these different types. Each change represents a serious break, if not a crisis, in the child's development.

There is no building team. It takes many men, with many skills, to construct a modern building. As the members of the group carrying out a certain task become more specialised their integration becomes more difficult. When one looks into the relationships between the special industries, trades, and professions which are concerned with building it seems incredible that any building should result at all.

It is hard to find any instances of a reciprocal relationship or identity of motive between groups within the building industry. The relationships are either one-sided ones between superiors and inferiors within some hierarchy, or else mutually exclusive ones between antagonists.

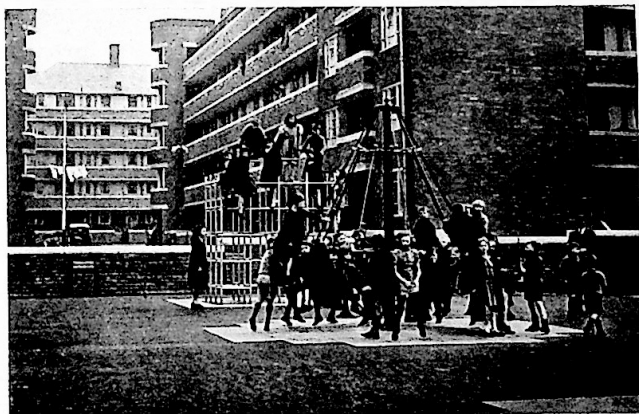
The battle for a living wage has led to antagonism between employer and employee, and even between trade and trade. An example of this occurred in which a patent concrete flooring could not be laid by labourers because it came—no one knows how—into the category of plasterer's work. Competition between contractors leads to the lowering of quality; manufacturers form combines to inflate prices and this leads to enormous increases in overall costs; competition between manufacturers inhibits standardisation and development; competition between monopolies results in exaggerated claims for the use of particular materials.

The building "team" in action is more like a scuffle of hens for corn than an ordered and responsible group of human beings making shelter for their activities.

The architect destroys the ground.

He destroys the materials.

He destroys people.



*And because I am happy and dance and sing,
They think they have done me no injury,
And are gone to praise God and his Priest
and King,
"Who make up a heaven of our misery."*

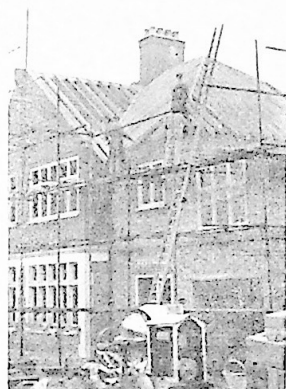
Once education is regarded as a thing separate from life, and once the child is no longer looked upon as a living organism which must develop as a whole, it is inevitable that the aims of education should become as diverse as the separate ways of regarding the child. When the child is seen as an inadequate and incomplete adult who needs "filling up" and "bringing out", a person to be addressed as "little man" and to be asked what he is going to be when he grows up—when this is the attitude to the child it is not surprising to find the aims of education centering around the question "What sort of people do we want to turn out?"

In the early days of universal education the answer was clear. The children who would find their place in the lowest ranks of industrial society, the army, or the unemployed, needed only a little knowledge or reading, writing and arithmetic. The techniques of the factory gave the clue to the method—repetition. Universal literacy became the proud aim. Recent statistics arising from the examination of army recruits reveal the futility of the aim, and give the clue to the failure of the method. Illiterates are sent to the psychologists, who see the cause but cannot prescribe the

cure—you cannot treat a child as you treat a machine whose component parts can be replaced if they break down—the child must develop as a whole or not at all. On the other hand, the children who would find their place in the upper ranks of industrial society, the army, and the unemployed—the idle rich as opposed to the idle poor—had to be trained in leadership, and "character" became the catch-word. Education in effect serves to perpetuate privilege and the structure of a divided society.

The 1944 Education Act tried hard to clear up this confusion by suggesting that the basis of education should be the child's needs. But adult society is reluctant to abdicate its right to decide for the child what its needs are. Obviously it would be unkind to bring the child up in any way other than that by which he will fit nicely into society. But education for conformity implies the unquestioning acceptance of existing forms of society, and hence of personality. Again the question to be answered is "What sort of people do we want to turn out?" and the vicious circle is complete—education for citizenship, education for occupation, and, as a desperate admission of failure, education for leisure.

The breakdown of the building team is reflected in the way buildings are made, in the techniques and tools that are used. Building is the most backward of all our industries. In other fields development has gone forward more freely and imaginatively as new discoveries and needs have appeared, and highly advanced and efficient products have been the result. Building has not developed, its products bear neither relation to naturally evolving needs nor evidence of technical advance.



Over a generation ago, Lethaby wrote:

"By structure I mean something quite different from what is ordinarily meant by 'construction', the safe putting together of a style design. What should be understood is an organic principle directed towards the perfection of building types, including skilful planning, suitable selection of materials, adequate lighting, warming, roofing, efficiency, endurance, economy. I mean a sort of building crystallisation, the entering on a line of development like those which have produced the ocean liner, the engine, and the aeroplane."

Architects do not see design as a method of creating an environment for human development in a mechanised society. The contemporary architectural approach is no more than the search for a compromise between factual data and formal preconception. To design successfully in this way would involve an unlimited comprehension of facts which, because of the analytical ordering of knowledge into many different categories, can never be achieved.

Architects make the mistake of imagining that a vital environment can result from a passive interpretation of a schedule of facts, rather than from an active interpretation of the total community. They are victims of the disease they are attempting to cure, for in their isolation they cannot sense the activity of the developing community nor convey feeling in their architecture to people from whom they are cut off.

Experience is recorded in mental images, patterns of fact which are in themselves static. These can illustrate experience and growth no better than a film-still can convey the effect of a sequence.

So long as we continue to interpret the world in terms of isolated facts and mental images we will not understand the relatedness of experience or the continuity of growth.

The school is isolated from the rest of the community. Iron railings or brick walls serve well to keep the children in and the parents out. Windows set high in the wall make the teacher's problem of retaining the child's interest, and keeping his attention focussed within, a little easier; and they also help to prevent inquisitive adults from peering in.

The schools are carefully locked when the children leave and the idea that parents and adults might use the buildings in the evenings is a recent innovation—and of course this is only permissible if they use it for "educational" purposes.



Techniques are not related to contemporary needs. By using obsolete materials and methods our builders are ensuring that our population shall not experience life in a healthy community. They cannot build enough houses, and without homes family-making becomes at best a penance and an unnatural disappointment. The building industry cannot meet the demands of an advanced society for the provision of individually variable space and light, shelter, and warmth, openness and enclosure and mechanical efficiency. So by retarding its own development the industry has stunted the development of the whole community; and bad living conditions are hopelessly accepted as an inevitable consequence of life. Vision and thought are stifled and life remains unbalanced, unquestioned, and subtly unhappy. The industrial potential is enormous—its energy is ever directed to new projects and achievements, but these are rarely concerned with the well-being of our community.

It is significant that Dr. Scott Williamson could not find an architect who could design in such a way as to provide for the activities of the Peckham Health Centre. The architect faced with a new problem such as this has no images to call upon—he has nothing in his catalogue of formal preconceptions that is compatible with the complex functioning of individuals, families and groups in a single building.

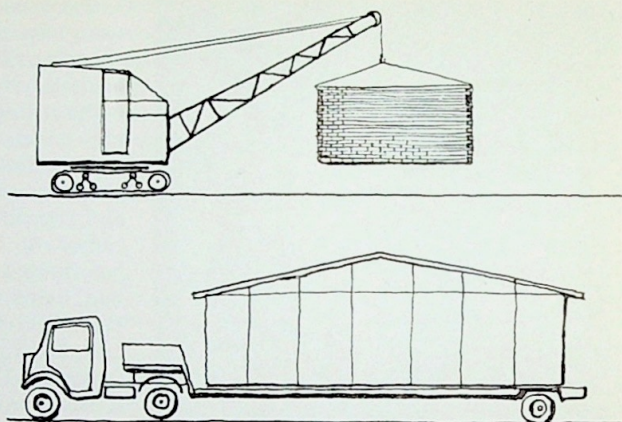
It is equally significant that the factory production of houses has been concerned not with facilitating and developing family activities, but with the application of machine production to the formal conception of the house—an arrangement of enclosed rectangular shapes, with windows and walls, a roof and doors.

In the isolated field of technique, development in a restricted sense is evident. It would be fantastic if the development of motive power from the horse to the internal combustion engine were to be equated with the form of a stage coach. In this isolated field the designer is capable of realising development in terms of a basic concept—movement. Yet the architect is incapable of realising development in terms of human function.

Education of children by adults, if it is to be at all effective, involves the establishment of personal relationships between them. Where the teacher and parent are unknown to one another the parent may resent the influence the teacher has on the personality of his child, and the teacher will probably regret the influence of the parent. Children are unwisely encouraged to believe that all adults speak the truth and know everything there is to know—the parent says one thing—the teacher another—the child's world begins to crumble. Both teacher and parent have different ideas as to how the children in their care should be brought up—"So that's the sort of thing they teach you at school!". By the failure to try to contact one another and sort out their differences they effectively ensure that the child's development will be stunted by conflicts.

The separation of the school from the rest of the community creates in the child's mind a sharp distinction between school life and adult life—between learning and living. With home and school often at opposite ends of a bus journey, experiences and discoveries in one lose their urgency because they seem unrelated to life in the other. Have the dry facts of geography no connection with the excitement of exploring a ditch? The day when a child leaves school and can kick its dust off his feet and throw his exercise books in the dustbin is a day he looks forward to. For him the statement that education must be a lifelong process is outrageous nonsense and, in the case of many schools, complaint by the children about the raising of the school leaving age has been as loud as that voiced by employers short of labour.

Where industrial techniques have been used, in almost every case they have been misapplied. Exact replicas of pre-industrial forms have been made in factories at one extreme, or pre-industrial methods on the site have been mechanised at the other. Houses are turned out from factories in the same measure as standard car designs and as soldiers' uniforms. Pre-industrial techniques have been vainly speeded up, and the mechanisation of what are essentially hand actions is a false attempt to justify the use of materials beyond their logical usefulness or value.



Design techniques and relations between designers have broken down. This is true of almost every office, public or private, large or small, and of almost every architect. In the hierarchy of the private office, the Principal begins the job, after a few meetings with the client, by making doodles and rough design sketches of his ideas, between telephoning, dictating letters to his secretary and interviewing other clients. He passes these to the chief assistant who sorts them out, translates them into dimensioned drawings—eighth scales—and possibly solves in detail some of the more interesting design problems. If the job is not a standard type building, for which the eighth scales alone are usually sufficient, the dimensioned drawings are then passed on to the junior assistants who "make sure that the thing will stand up"—half inches—and probably a very junior assistant, who makes the tea for the hierarchy, will copy out a few standard door and window details—full sizes. The principal has another interview with the client, exhibiting the deceptive masterpieces of the professional perspective artist or model-maker who was called in at the last minute. After it has been approved by the client, the job goes out for tender, and building starts. As building proceeds, the communication between office and site is conducted through the clerk of works who has played no part in the design, yet who is expected to interpret it to the last detail.

The same disease infects the public office. The "Architect's Department" is dissociated from the other departments, and divided within itself into sections such as Schools, Housing, Health, and Fire. The sections are often divided up again into unrelated groups of architects. Within these groups, if indeed they can be regarded as groups at all, the individualist architect looks on criticisms and proposals for mutual assistance as veiled insults; he assumes immediately that they imply no confidence in his efficiency.

The people who make up the school community are divided up rather in the manner of a military organisation. The head is to the teachers as a general to his staff. The teachers are to themselves as a collection of specialists with little in common but mutual suspicion. The teachers are to their classes as dictators or leaders. The prefects are to the other children as sergeant-majors are to the other ranks. The children are arranged neatly into classes and receive promotion year by year. The whole machine is designed for the passive reception of instruction. The school is no more conceived as a stimulating background for activity than is the barrack room. If boys and girls attend the same school they will enter at opposite ends of the building to ensure that there is no possibility of their seeing one another at their toilet. If a governor enters the school he uses the front entrance to ensure that he does not see the untidy squalor of the children's cloakrooms. If the baker enters he does so at the back lest the children should pick up his bad language. Small wonder that in this artificially contrived environment the teacher has found it easier to play the role of dictator than that of guide.

The building industry has failed to apply new techniques. Why has the change vital to our evolution so far largely failed to come about? The causes must be sought deeper than the general inability of builders to free themselves from the rigidity of old forms and methods. Manufacturers of building materials have found it profitable to mass-produce unit houses from their own specialised products for a market to which they can dictate costs. For these industries the standardised house type was the surest commercial proposition. In order to reduce production costs the factory unit is centralised according to supply of material and labour, while special regional needs and economy of transport are regarded as unimportant. Where co-ordinated standardisation can be of widespread benefit through the real economy of mass production at the scale of light fittings and door handles, the industry is completely chaotic.

Large rigid components like walls are made in factories. They dictate forms and activities instead of liberating them from the pre-industrial imprisonment. The more useful standardisation of small components for cheapness, flexibility, and freedom is not attempted.

An equally important reason for failure is the inability of the industry to advance and develop technically. The end of the war brought the condition and opportunity for change. Industry might have been better able to take advantage of the situation had the Building Research Station given them a lead. The research station should be an active source of development, experimenting with new ideas and proposing new solutions. Instead it seems to fulfil a passive function and waits at the beck and call of any architect in trouble and of any manufacturer in need of research at public expense.

"A building designed by one man and carried out for him by a number of purely executive associates cannot hope to achieve more than a superficial unity."

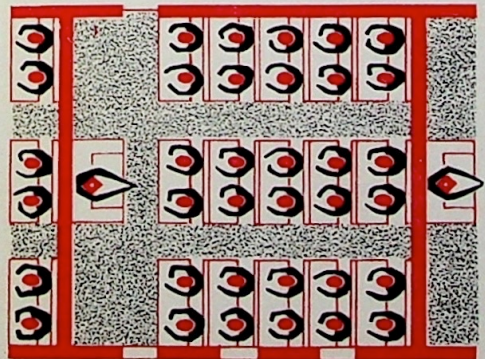
The architect does not communicate. Often, he cannot.

He divides himself off from his fellow architects, even when they are working on the same building. This is implicit in the organisation and design process of the average office. Since there is no unity in the process or organisation, there can be none in the architectural result. There is a great gulf fixed between the working method of the profession and the contemporary production techniques and human needs which it should be reflecting and stimulating.

Within the office the architect works away from 9 to 5.30, designing buildings for people he may never meet, in materials he may never touch, to be built on sites he may perhaps visit—once or twice in a hurry. As the architect's relationship with other architects in the design process has broken down, so has his relationship with the users and makers of his buildings. He has no contact with them while designing. He is isolated from them in his everyday living.

The illusion that the best architect is usually inarticulate and that his work should speak for itself is one of the many devices by which his isolation and his failure to communicate is excused or disguised. He usually attributes this failure to the fact that he is a visionary genius, far in advance of his time. The great and stupid unwashed and the narrow bigoted technical specialists who surround him do not appreciate the fine creation of his artistic imagination. This "Art for Art's sake" attitude is a defence mechanism fostered by his education; he is encouraged to imagine that talking is not really his business, although he has to learn something about the art of "convincing the client".

The constant development of new techniques and new forms of human activity demand that the architect should be articulate, that architecture should be a group function, that the group should work in close relationship with all others concerned with building. So long as design methods are anachronistic and techniques of expression are cumbersome, the imagination is frozen, and there can be no unity of architecture and living.



Education is ineffective. In a school which suffers from a rigid hierarchy of people, a building rigidly divided up into rectangular classrooms, and a school day split up into periods as mechanically exact as the bell system which announces them, it is inevitable that teachers should find it more and more necessary, and easy, to impose the required amount of knowledge on the children by instruction and training.

Training, the Peckham biologists say, has come to be accepted as synonymous with "education". The objective conditioning of reflexes can be achieved for special purposes—as a remedial measure this may sometimes be necessary. Nevertheless it is a deplorable necessity, for it indicates the existence of undeveloped capacity in society.

Since the existing social and educational systems tend to deprive the young of their biological inheritance at an increasingly early age, it is no wonder that training is coming to be regarded as a necessity for youth—though not recognised by its advocates as the admission of failure that it really is. Children discover themselves by active contact with their environment and with each other. In a school divided, stratified, and fraught with barriers—brick walls and petty rules—the resulting education cannot fail to warp the children's natural growth.

The work team cannot exist in the present economic and social structure of society. At present we are experiencing the culmination of a trend toward the central grouping of special activities. The concentration of special activities in giant factories and office blocks is suited to the methods of central government as well as to those of private industrialists.

To the directors' board the individual worker is only of interest as a "hand" or "unit" capable of so many man-hours at such and such a job. The work team is altogether unnecessary in the "shop" or "office" where each worker carries out more or less the same operation.

Organisation under these conditions is directive as well as administrative, and the individual worker is treated as a passive and adaptable machine. Belonging to no team, having no personal responsibility, the modern worker has no tangible basis for relations with his fellows during his work life except through his trade union—for the purpose of defence. He is isolated.



Architecture is isolated. Through architecture the beliefs and ways of society can be visualised. Architecture as it exists to day cannot externalise society because society is little more than an unrelated chaos of frequently contradictory specialisations—isolation of work, of technique, of knowledge; it is something static, seen as a pile of boxes firmly shut. There is no general form. Architecture is another box in the stack called society, unopened and unrelated like the rest. Architects have struggled to create an architecture which is an expression of social purpose. William Morris and Webb in the Red House, Richardson, Sullivan, and Frank Lloyd Wright—"have a place with the Romantic poets who were attempting to embody in their own personalities and in their own work something that could not be brought into secure existence without the political and social co-operation of a sympathetic community". The architecture of revival, the escape of the architect, was a symptom of "the fatal lack of connection between architecture and the dominant sources of social order". Architecture is incoherent because it is just another fact unrelated to the environment and unintelligible to the user.



The child is isolated. The school is isolated from the rest of the community and within the school the children are isolated from one another. The school is divided into classes and the process of segregation and isolation extends into the classroom itself. Desks are arranged in rows and columns all facing the same way and the teacher's desk is raised on a platform so that he can see at a glance the child's head as it turns to smile or whisper to its neighbour.

"Divide and rule" might well be the school motto.

The same purpose is achieved in a yet more subtle way. The whole system of competitive marking, form lists and reports, which inevitably develop in a competitive society, ensures that the children do not help each other in their work. It is only too common to see a child crouched over a piece of writing on his desk, shielding it from the gaze of his neighbour. Even in an architectural school it is not unknown for a student to slip his design drawings hastily into a portfolio the moment the ink is dry. Habits acquired at school die hard.

It is by pooling and sharing their knowledge—"cribbing and filching"—that children and architectural students develop and learn. Traditional educational techniques ignore or contradict this. The factory technique of mass production still holds sway in the school and the teacher desperately tries to pump information into the receptive, passive, isolated child or student. But "it is impossible to develop clear and critical thinking among children or adults by the method of discourse of the one to the many, by the conception of education summed up in the phrase 'being taught'."



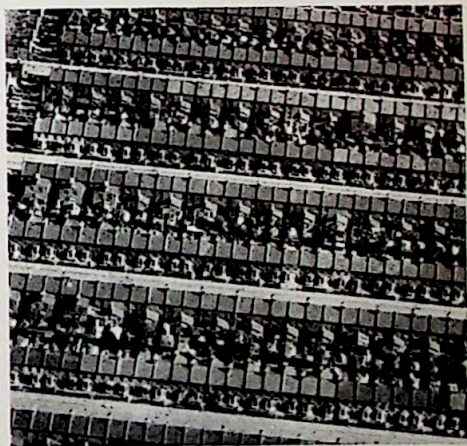
The work group, an essential factor in social life and its natural expression, is suppressed by the form and structure of modern society. In a Government survey conducted in 1947 on the incidence of neurosis in factory workers it was discovered that *"a decrease in social contacts was the circumstance most commonly associated with neurosis"*. Each person becomes an isolated individual unit having contact with other units only through the long and tenuous channels dictated by a distant and gigantic centre.

The "centre", in reality, is no more than a complex bureaucratic system. Even its highest representatives are subjected to the machine they "control".

The worker is alone.

People only understand architecture in terms of a house, a workshop, a hospital, a street—but never in terms of the growth and development of their own lives. People move from one form to another and see only superficial relationships of technique and material and of forms like windows and staircases. Architecture is understood in these exclusive categories as a jumble of forms.

This picture is symbolic of the way in which architecture is a limitation and a breakdown of the living together of men. An isolated activity in an isolated yet constantly repeated form.



To isolate the child and treat him as a passive receptacle is to deny him the stimulus of his fellows and the stimulus of an active relationship with his environment. More serious than this denial of an essential means of development, is the damage that this isolation does to the child—the feeling of insecurity, of hostility, of loneliness—the germs of neurosis.

A competitive environment may ensure the survival of the fittest—but most fit for what?—to survive and succeed in that environment. If the environment is unhealthy it will be the unhealthy that survive.

Work and life have been split asunder. Work is an evil necessity, avoided if possible by means of unearned money. Enjoyment ceases between 8.30 a.m. and 5.30 p.m. Joy has gone out of work.

"But the putting of labour-power into action, that is to say, the work, is the active expression of the labourer's own life. And this life activity he sells to another person in order to secure the necessary means of life. His life activity, therefore, is but a means of securing his own existence. He works that he may keep alive. He does not count the labour as a part of his life; It is rather a sacrifice of his life. It is a commodity that he has auctioned off to another. The product of his activity, therefore, is not the aim of his activity."

The failure to differentiate properly the different methods of production has led not only to the destruction of the worker's life but also to the degeneration of the product. Where hand processes have been mechanised the product can never be satisfactory from any point of view. Methods of production must be clearly implicit in the form and structure of all contemporary design. To attempt to reproduce machine-forms by hand or hand-forms by machine is a denial of human creativeness.

The trend towards more and more complete limitation of the function of the architectural profession has developed through the centuries. It is paralleled in all the professions and can be seen in the multiplication of professional institutions during the past seventy years. It is a result not only of social forces outside the profession, but also of conflicts among architects themselves.

In architectural education, we see an attempt to overcome these conflicts in terms of a false choice between two types of school. In the majority of schools an attempt has been made to link education to the contemporary situation and to base it firmly on the conditions of practice which exist to-day. Since this situation is chaotic and practice arbitrarily restricted and badly organised, these schools are clearly not meeting the need of our age for a new form of architecture. On the other hand, some schools, such as the Bauhaus in the twenties and the Chicago Institute of Design to-day, attempt to detach the student from the chaos in the outside world, so as to give him a chance to study the essentials of design in peace. But here the student is in a dream world. *"Throughout the Bauhaus literature we are overwhelmed by 'creative' and*

'creativity'; we get but little clue for whom and for what end. There is the entrance to the blind alley into which the ideas of the Bauhaus have led. We have creative individuals, liberated and integrated—and nowhere to go!"

The architects trained by pupilage and apprenticeship, who constitute three-quarters of the present entry into the profession, have an introduction to architecture which, while perhaps more "practical", is even more narrow and inadequate.

But more important than the inadequacy of the architect's training is the fact that architecture is a middle-class profession. Entry to the profession is restricted almost entirely to members of the brain-working class as opposed to the hand-working class. This is due primarily to the economic divisions of our social system—which is not only unjust but inefficient. And even those few hard working individuals who, by scholarship and good luck, manage to "work their way up" from the working class to the professional class, are often quickly convinced that "brainwork is superior to hand-work"—a ridiculous but remarkably effective argument for the perpetuation of social and economic inequality.

As though isolation were not enough the segregating process has been carried even into the child's personality; *"it (education) took the path of least resistance and devoted its attention to training each of the three artificial parts into which child nature had been conveniently analysed, and it trained each in rigid isolation from the others, and assigned them to separate members of the teaching staff; thus the body was the business of the games master and the sergeant instructor, the mind of the assistant master or mistress, the soul of the headmaster or headmistress and the chaplain . . ."*

The process does not stop here. The mind itself is subject to the same process. Knowledge and thought are divided into separate compartments—subjects—often quite unrelated to one another. The memory is one thing and it has to be trained by making the children learn "by heart" (a curious instance of dissociation in thought and language). The powers of reasoning are another and the child is given "problems". His powers of expression are quite another and he must be given "compositions". This sort of education bears little relationship to the actual perceptive and thought processes of the child, and it is probably a major factor in reducing the child to that state of helpless "reliability" in which obedience and memory become the dominant virtues.

This stunted form of education, so vital to the commercial exploitation of mechanisation, has itself been largely responsible for the disintegration of society under the machine.

In the 1947 report on neurosis it is stated that: *"Of all the men studied, 28.3 per cent., and of all the women, 36.0 per cent., had suffered from neurosis in the course of six months"*; 3083 workers were studied in thirteen light or medium engineering factories. Human misery is not caused only by material poverty as the nineteenth-century thinkers have led us to believe; *"in the factories studied, neurosis was as frequent among those of more skill as among those of the less skilled jobs; and as frequent among those usually receiving the highest range of earnings as amongst those usually earning less"*.

The newly apparent biological effects of this subtle disease are as great a cause for alarm as the inequality of wages. The consequent attention being given to forms of organised leisure, "music while you work", and nominal "workers' participation" in administration, is nothing more than palliative.

As long as working and living are divorced from one another, the person will be divided within himself.

The architect avoids his responsibility by limiting his own function, and conversely, the limitations imposed by society on the architect have destroyed his responsibility.

The essential function of architecture—the design of shelter for the activities of our contemporaries—can only be fulfilled if architects fully understand those activities, are closely in touch with them and realise their consequent responsibility as designers. The present position and organisation of the architectural profession seem to be a most emphatic denial of its function.

Professional isolationism, academic education, the equivalent isolation of all the other professional specialists and technicians, and the inevitable class character of the professions in our divided society, amount to this: the design team does not exist, just as the building team does not exist. The inability of the profession to understand the development of contemporary technics and human needs, and to relate and stimulate these developments in architecture, is both an effect and a cause of this state of affairs.

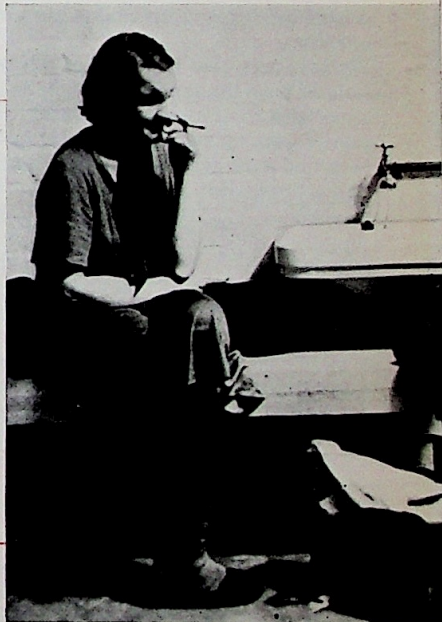
The architect, like the society in which he lives, seems indifferent to the isolation of the worker and the loneliness of the child. He shrugs his shoulders, and turns away to concentrate on some intriguing detail in his friendly world of forms. "What can he do, anyway?"

The child and the worker will show him what he can do, presently.

It is inevitable that any organism which is isolated and at the same time subjected to disintegrating forces such as have been described, will die. If it does not cease to exist it will at least cease to live. That is what is happening to too many of our children—they are being turned into machines—automata fit only to take their place beside other machines on the production line, to fill in football pools in their leisure, or to be fed with pornographic films.

"To regard a child primarily as a worker, a citizen or a potential parent is to obscure his unity as a personality, and a personality of unique intrinsic worth."

To treat a child as anything but a unity—an indivisible whole—is to deny him the opportunity to grow as a healthy organism. The denial of growth is a sentence of death.



The development of society during the last few centuries has been characterised by unco-ordinated expansion. This process has two aspects, both of which we have considered in the first part of PLAN—disintegration of the whole, and isolation of the part.

The organs of society disintegrate while proliferating in cancerous growth; thought is split from action and thought from thought until the subdivisions of our knowledge and experience are minute; and because we cannot see the relationships between these subdivisions, we cannot use our knowledge and experience, we cannot see them whole.

Analytical thought makes divisions in order to understand. In a disintegrating society the slaughter for dissection is not confined to frogs and dogfish; play is dissected from work, money values from human values, economic man from social man and class from class. Parts are not seen in relation to the whole from which they derive nor to the whole which they might become. Religions and moralities multiply, populations expand, specialists learn more and more about less and less, and all the while disintegration quickens.

We have seen that the effect of this process on the individual is to isolate him. If he is a worker he is isolated from the administrators; if he is a professional man from the sphere which his work affects; if he is a specialist from all other specialists. He cannot understand anyone else's job and so he insists that they cannot understand his own. He is isolated in his club, in his holiday resort, in the district in which he lives, and most of all, in his home. Because of his isolation the mutual stimulus of his environment and his own actions is denied to him; isolation and stratification dull his life and lead to apathy.

Dissociation and isolation are two aspects of one process. We see a world full of vast nations, industrial combines, high finance, and currency manipulation; complicated social systems and incomprehensible technical languages. Community has died and we are left with conurbations filled with units of economic man lurching about in a welter of disease and war, unhappiness, frustration, and death. We are detached, powerless, and alone.

"Without Contraries is no progression. Attraction and Repulsion, Reason and Energy, Love and Hate, are necessary to Human existence.

From these contraries spring what the religious call Good and Evil. Good is the passive that obeys Reason. Evil is the active springing from Energy.

Good is Heaven. Evil is Hell."

"All Bibles or sacred codes have been the causes of the following Errors:

- 1. That Man has two real existing principles; viz., a Body & a Soul.*
- 2. That Energy, call'd Evil, is alone from the Body; & that Reason, call'd Good, is alone from the Soul.*
- 3. That God will torment Man in Eternity for following his Energies.*

But the following Contraries to these are True:

- 1. Man has no Body distinct from his Soul; for that call'd Body is a portion of Soul discern'd by the five Senses, the chief inlets of Soul in this age.*
- 2. Energy is the only life, and is from the Body; and Reason is the bound or outward circumference of Energy.*
- 3. Energy is Eternal Delight."*

"Let the Priests of the Raven of dawn no longer, in deadly black, with hoarse note curse the sons of joy. Nor accepted brethren—whom, tyrant, he calls free—lay the bound or build the roof. Nor pale religious lechery call that virginity that wishes but acts not! For every thing that lives is Holy."

We must search out signs and tendencies, tendrils of growth; we must change ourselves and the world;

The world and so ourselves;

We must live.

There are two functions of natural growth that will help us to understand the significant tendencies that are apparent to-day; integrated growth, and the mutual stimulus of organism and environment.

The first is a process that contains two aspects, and it is the failure of this process that we have just described. Perhaps these two aspects of integrated growth can be best illustrated by considering the growth of a child in the womb. Its development is characterised by the increasingly specific nature of its parts which, in spite of their individual development, never become isolated from the development of the whole. The child grows by developing highly differentiated cells, organs, and functions, while remaining an integrated organism capable of behaving as a whole. If we compare this growth process with our knowledge of society's development we see that society has disintegrated into isolated parts, instead of differentiating its functions as integral parts of the whole. This development appears to be at a critical stage. On one hand we have the atomic bomb, with its threat of final disintegration; on the other we see small groups of people working together in new relationships with each other and with their environment.

The second function of growth is the mutual stimulation of organism and environment. This must not be considered as a process of cause and effect but as a simultaneous one—a balance achieved; not as a static form but as rhythm and dance. In our illustration of the child in the womb the process is seen as a development of both mother and child. Indeed studies at the Peckham Health Centre have established that the influence of pregnancy extends to the whole family, and even beyond it. It is a period in which the stimulus of circumstance is great, and thus growth is rapid. Toynbee, in his "Study of History", has considered the relationships of environment and civilisation, and noticed the same kind of relationship. We must, therefore, understand that our opportunity to develop lies precisely in the difficulty of our circumstances.

The unbalanced development of analytical thought in Western civilisation has resulted in disintegration, but that does not mean that analysis must be condemned, nor that we must throw overboard the great power of contemporary machine techniques. We must accept our civilisation, our heritage, and our whole environment, and develop from it. Analysis must be seen, with synthesis, as an aspect of creative work. Man must be seen, with machine, as an aspect of community. We must see ourselves as incomplete men in an unsatisfactory environment, who can develop a relationship with it which holds the promise of great happiness.

We devote the last part of PLAN to a study of the meaning of this situation in terms of thought and action, in the same three aspects of living that we considered in the first part.

Health means literally wholeness. The single-minded man is not neurotic; he knows that *"love, work, and knowledge are the well-springs of life and (that) they should also govern it"*.

Creative work in a healthy environment is a primary need of man. The right work is just as necessary as love for complete living. In a complex and highly developed civilisation, there are as many different kinds of work as there are kinds of people.

Everyone must be free to do the work which satisfies him.



Biology, sociology, town planning, industrial design, and civil engineering are but a few of the disciplines which must be freed from the straightjackets of professionalism and specialisation. When this is done people will be concerned with living in an ever-increasing fullness, and the manifold disciplines of work will enrich and develop the life of everyone. The first step in this direction is to relate all the isolated products of man's mind to his way of living. In November 1948, the magazine *Forum* produced an issue called "Measure", in which an attempt was made to relate isolated factors of environment to the human body; heating, lighting, sound, space, proportion—all the isolated factors which the architect vainly attempts to assimilate in their isolation. When the study of such factors is concerned not merely with the measurable quantities in the physical situation but also with their effects on human behaviour the research immediately becomes more than a mere study of an isolated aspect of physical environment. It becomes a study of the relationship between man and environment—a study of a living process rather than a static form. Consideration of quality is, therefore, the consideration of relationships—the study of man.

All knowledge is related to human activity, and in the study and understanding of human activity we will find relationship and interaction between all fields of knowledge.

The child is a whole. The child is a body-mind organism—the body cannot be educated without the mind, nor the mind without the body. The functions of eye, mind, hand, and heart are indivisible. In their reaction to stimuli they are so closely knit that any division is valueless.

"One of the most striking pictures of the education of the whole child is to be seen in the spectacle of a boy intent upon a piece of carpentry: in the visualisation and appreciation of an end which is both useful and beautiful, in the thinking out of the proper means for its accomplishment, in the accuracy of measurement, the manual skill, and the manipulation of a tool which are required, in the demands upon the senses of sight and of touch, in the economical and controlled use of physical strength, and in the obvious determination of the will to exclude all distractions and concentrate the whole self upon the job—in all this, intellectual, moral, and physical powers are brought into play and operate as one, and the finished article is the self-expression and creative act of the whole boy."



The growing demand for skilled work by the general working population is one indication of the re-awakening desire for creative life. The new education is stimulating this and adding its own force to the articulate demand for meaningful work. This demand is in itself creative—it is a means towards the breaking down of class structure and the ending of exploitation. The tremendous possibilities of modern technics can only be realised by revolt against their misuse. This trend runs parallel to the urge for community life, and each movement helps the other; if a man feels himself to belong to a community, he wants to work for that community. Once he can see the results of his work serving the life of his community he will feel and act as a normal human being.

As fields of knowledge become related and interdependent, so people who are working within them will become related to one another in working towards the satisfaction of a common need. A person with a need he can state will be dependent for its provision upon his relationships with other people—people who have assimilated specific knowledge of a certain kind and who share with him a common understanding of living. Groups thus form where needs become articulate. From the thought and action of groups new needs will arise, and these needs will in turn demand new groups. Each man lives in a fluid environment of groups through which he functions and understands his living. A community is not a static framework of forms within which isolated activities struggle to exist in conflict with each other. It can only be understood as a fluid medium in which active groups arise where there is a need and die when the need disappears. Community is the movement and development of groups and their ever-changing content. The group consists of people performing the diverse activities of living, moving from group to group, and creating a developing community of functional relationships.

The process of growth in a child is a double one—on one hand the differentiation of skill, strength, choice, and imagination; and on the other the integration of these capacities for the activity of the whole personality.

The education of the child, which means a true leading out of his personality towards full functioning in community, must therefore be concerned with stimulating this dual process of growth. It is through the absorption of the whole child in creative work—through acting and mime, building and painting, movement and dance and music—that his experience and his activity can become one. Creative work becomes purposeful play, and the child himself expands his need for experience and widens his skills as the field of his activity grows.



Through the decentralisation of work and economy the worker becomes important in his own right. He develops into a responsible being on whom his fellow workers directly rely, as he in turn relies upon them. His contacts with people are broadened and work becomes personal action linked directly with life and society. Thus the worker is no longer an isolated individual but a consciously contributing member of the community with personal responsibility towards it.

When architecture is understood in terms that are common to all human activities and not just concerned with the eye, and when it is interpreted in forms which facilitate these activities as a whole, then it will become an active agent in the development of community. In order to do this, architecture must concentrate on *"structural forms . . . organically at one with life, flexible, adaptable, and renewable"*.

Children must be free to develop in groups. The integration of the child's faculties is part of an essential relationship between one child and another. This integration of the personality makes the child different from his friends—a unique individual with a unique contribution to make to the growth of his friends. It is through group learning that this differentiation acquires real meaning. Drama, singing, and dance—these are social acts. Painting, too, is for children a social act—a different activity from adult painting to-day, and perhaps a more profound one. To be one of a group of children intent on miming a story, painting a picture or making an engine is an essential factor in the child's development, for the co-ordination of the child's faculties is reflected in the co-ordination of the group for a common purpose. The intimate and unconscious stimulus of other children has a value that no adult teacher could possibly achieve. It is through this common purpose among changing groups of children, each child absorbed in controlling the skill of his body and mind, that the individual can fully grow.

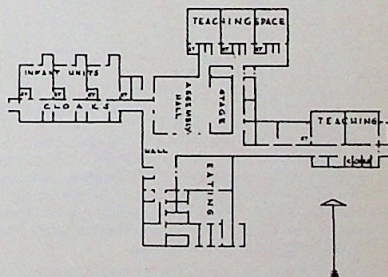
The child chooses his activity—"to-day we'll dress up and have a tea party"—"to-day I'm going to bake cakes with the others"—"to-day we're going to make a shop and sell things"—he chooses where to use his responsibility-to-a-group. It is through such group work that the child discovers his need for communication, and he naturally learns and uses number, speech, and script for what they are—communication for group achievement.



Within the work team the individual member is able to play a part which can be appreciated and shared by everyone in the group. The spontaneous formation of work teams by people who have come together and consciously or unconsciously defeated apathy by their mutual effort have proved to what extent existing attitudes to work and quality of workmanship can be transformed. The small work group is autonomous, its actions are the result of collective control and responsibility. The worker recreates himself in forming the team and finds recreation through it.

A few examples where this state of affairs has been realised can supply evidence of the changes it can bring about: the clockmaking community Boimondeau, at Valence, one of many similar communities in France which are mutually self-controlling, the members sharing the profits of output; the decentralised Czech industries whose workers benefit from rising production; the Israeli settlement communities; and recently in the English Midlands, the fifty families who are building their own community—a work group building houses co-operatively in addition to their normal work in factories. As a Press report pointed out with surprise, this group has neither the time nor the desire to go to the cinema.

Architecture must formulate contemporary life and develop community. Any architecture, any contortion of the material environment, is bound to affect contemporary life. But just as it can destroy, so it can also renew life and become a source of development in living. The family needs a flexible environment to give it the freedom which healthy growth demands. Aluminium alloy sections, sheets of glass and hollow plastic will be the new materials for this flexible environment. They will be light in weight and will fit together with that precision which machine techniques and accurate calculation provide. And the people who live in them will be able to arrange their living space to suit their changing needs. Adaptability will provide stimulus for new activities and break down the isolation of old ones. People will be able to live more fully. Continual renewal and replacement of components will ensure the utilisation of the newest developments in technics. Architecture must not provide an environment which rigidly determines what people do or how they do it. It must provide instead a new environment which stimulates development in all aspects of human living.



The child is a friend. Group activity is a vital factor in his healthy relationship with other children and with his whole parent community. Confident in his own growing ability and eager (as his interests grow), to explore further and further his surroundings, he is ready to accept and enjoy new people and new experiences. He feels neither shy nor inferior, for he has something of his own to show—the house he and his friends have just built, the book of day-to-day news they are compiling—all this is his; he expects and welcomes the interest of strangers.

Children are no longer little grown-ups, ashamed of their littleness. They are able to enter adult surroundings conscious of their own achievements and eager for new stimuli.



We have seen how the true potential of the building industry has lain unrealised ever since the industrial revolution, and that, generally, existing building methods can provide no solution to contemporary problems. But valuable practical experience of the use of industrial production in its right context has been gained in spite of the many contradictions and failures of post-war years.

The Education Act of 1944 has started a long-term programme of local authority school building. The need is as immediate as it is great.

Hertfordshire's programme was formidable—the initial estimate was at least twenty schools each year for many years. This meant building quickly and economically, but the county could not hope to reach the required number by using the existing administration, local resources and building methods. The possibilities of long-term planning were recognised and exploited.

A new organisation for design and new relations between designers can be found in the school section of the Architects' Department of the Hertfordshire County Council, which has a five-year building programme for education. The design team, while working as a whole as far as possible, is differentiated into two groups: the User Requirements (U.R.) Group, responsible for liaison both with the educationists, who have a broad view of the programme and can co-ordinate educational results and needs, and with the teachers, who are familiar with the detailed functioning of the school through their daily work; and the Technical Group responsible for liaison with operatives, technical and research specialists, and manufacturers at all stages of the design and production process. This form of organisation at Hertford is determined primarily by the necessity for keeping the needs of the children, as interpreted through the experience of the educationists and the teachers, in the forefront throughout the design process.

The U.R. Group in its liaison with educationists and teachers, brings both into touch with the site architects. Educationists, teachers, and architects meet at the office and

the site (with the children as well, when possible), commenting, criticising, and making proposals. These criticisms are interpreted by the U.R. Group in terms of planning points and modifications in detail design which thus arise directly from user experience and are based on the activities of the children in the schools. The U.R. Group is also responsible for liaison with the Ministry of Education. All site architects discuss their schemes with the Ministry officials and all Ministry material is studied by the U.R. Group. The Ministry, however, is not well organised at present. Many of their officials have hardly seen a school for ten years. The Group's contact with them is one of the ways in which the programme is affecting the external environment; it is helping the Ministry to put its house in order.

Other functions of the U.R. Group include planning the school building programmes and keeping them up to date by constant revision and modification. This often means headaches for the architects, and is sometimes called a waste of money, but it means that they are able to keep the design of the schools in tune with developments in user requirements.

The designing of a school becomes more than providing an enclosing shelter for teaching in, when the development of the child is seen in terms of the double relationship between child and environment. The design process must create an active background playing its part in stimulating the child—a background no more confined to a classroom or building than home is confined to a house.

The school building must be an active partner in this process of education. The children must be able to exert as much influence on the building as the building exerts upon them. Only in this way, by the children and teachers being able to change the form, light, colour, and contents of their spaces as they need to, can these spaces fulfil their stimulating function. Only by changing can their value remain constant.

The post-war Hertfordshire schools are among the first in which a real attempt has been made to provide an active background for children. A great degree of free movement within the schools is possible—the entrance, assembly, eating and communication spaces flow freely into one another.

The structure is light, gay, and logical—completely without pomposity. Colour has been used for what it is—an integral part of the light and space of the building. Free at last from the cream wall and green dado, the circulation spaces in these schools sparkle and glow with large areas of bright colour.

These schools—clean and lively places stimulating the same qualities in the children who use them—are at the beginning of a new understanding of the child in his society and his building.

The logical answer to the problem of building quickly and economically was sought in factory production. Long-term planning ensures an even supply of building material. Delay is reduced and money saved by bulk ordering and direct contact with the manufacturers.

The mass production of components which can be fitted together in a great variety of ways, has speeded up both production and assembly. On one site an entire structural frame for a school was erected in one day by a skilled team who came from the factory 120 miles away. These schools are assembled from components made by many different factories who may send their own men to install or erect their particular part of the building. Therefore, the amount of work done on the site is reduced and actual building operations are speeded up. There is a tendency for work to be done on the site by many small teams of specialist sub-contractors. In this situation the role of general contractor is changing. His staff is decreasing and his duties on the site are becoming restricted to those of co-ordination and administration only.

As methods of organisation and building develop, the cost of these schools begins to fall. The economy of new methods is evident. The Hertfordshire schools already cost 25 per cent. less than those of orthodox construction.

The Technical Group at Hertford, apart from effecting liaison with manufacturers and technical specialists, has two main responsibilities: the design of the components, and the administration of the process of erection. The two jobs are really indivisible. The architect is both designer and administrator at once, and he has to make this clear to the manufacturers and specialists with whom he collaborates. The ability to understand administration as well as design is particularly important in the present set-up, in which the first criterion for judging a new idea is always "will it pay?". If the architect in the Technical Group is to work successfully with any manufacturer he must know the prices of each article, how many of each article are wanted by what time, and what the future demand for the article is likely to be. During discussion with the manufacturers to decide on design details and production methods (the word "manufacturer" here meaning producer and not owner of capital), it is vital that the Technical Group know all the factors

which have influenced or changed the design in the course of its development. Only thus can they ensure that the point of the design idea is not lost in this last stage of production and realisation.

To convince manufacturers that new ideas and methods are worth putting into production, the Technical Group works with the Building Research Station and the Field Test Unit of the Ministry of Works. The latter, for example, has used one of the schools as a test of the efficiency of a new building method in practice—the drilling augur for pile foundations. When the idea has been tested by direct experiment with a prototype in this way and found successful, it becomes possible to persuade a manufacturer that he will make a satisfactory profit if he embarks on large-scale production. In fact, the schools are just as much a testing ground for new methods of building and construction as they are for a new approach to education.

What is implied by this new approach to the meaning of school? It has been said that children educate their parents. It is certainly known that pregnancy and childbirth have a profound effect on the physical and mental development of the mother—and so on the parent couple. It is true to say that the man-woman organism is mentally and physically complete only after reproduction is achieved. But this action of conception and birth is only the beginning of a mutually stimulating relationship between child and parents—for the child, as it grows, itself stimulates growth in the parents. This is a continuous process essential for the growth of the family. The individual is born as part of the child-growth of one family, grows up and becomes the parent-growth of another.

Seen in this light, school is simply an expansion out from the home of the child's field of sensation and action, depending just as much on the active interest of the parents as on that of the teacher. As the child's experience widens it is essential that as far as possible he should be free to choose what he wants to do and to choose the groups of children with whom he wants to do it. Only in this way can his powers of selection develop.

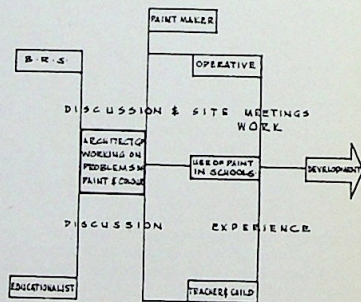
The teacher's task is, therefore, to be a guide, a suggester, foreseeing and providing for the likely needs of children. To do this the teacher must be absorbed—in every sense—in the learning group. The children must love him and accept him fully and naturally as part of their everyday life.

The first results of the Hertfordshire programme are prototypes for the whole of the building industry. They show new directions in building practice and point to future development in the organisation of building production. The direct supply of building materials can bring prices nearer to actual costs. The process of construction is becoming a matter of the efficient co-ordination of many different work teams. The general contractor will ultimately exist only to draw off his percentage on work done on his behalf by the sub-contractors. Like the clerk of works he will become unnecessary and will be supplanted by a site co-ordinator—a member of the design team.

To fulfil their function in the community our builders must learn to employ contemporary techniques. The potential exists, the experience does not. We must learn from the experiments of the most courageous and imaginative builders, and, most of all, from the more developed allied industries.

The constant development of new techniques and new forms of human activity demands that architecture must become a group function and that the design group should work in close relationship with all others concerned with building. This implies that the architect must be able to express himself clearly in simple words and drawings in order to make himself completely understood by those with whom and for whom he works. Group working also demands that each conclusion reached in the design process should be recorded graphically, kept for comparison with earlier and later conclusions and for analysing the evolution of the design. The inarticulate architect who designs by sudden inspiration and cannot develop his design rationally stage by stage, cannot possibly work as a member of a group. He is an anachronism.

If the design group is to work successfully the architect must be a designer and an administrator at the same time. Whenever an administrative problem comes into the office it is almost always fatal for it to be dealt with only by a professional administrator—problems of design and administration are inseparable. In a programme such as that now being tackled at Hertford, the professional administrator and the manufacturing firm's agent come between the designer and the man who constructs the building. Like the inarticulate "inspiration" architect, they are anachronisms.



The school must be free of the teacher on his dais, the forbidden glance out of the window, the homework books in the front room.

The school must breathe with the growth of children. It must live.

Child—parent—teacher—building: these are the elements of the living school.

Isolate one element and the school dies.

The school must be a community.

The Hertfordshire schools are a working demonstration that the right kind of buildings can be produced in sufficient quantities by economical methods.

We have an indication of an industrial technique which is economic in the human as well as the financial sense of the word. With a sufficiently decentralised industry and social needs effectively expressed, modern technics can more than satisfy the huge demand. It is fantastic that anyone who enjoys the beautiful efficiency of a bicycle should be content to live in a crude brick and timber box.

Modern man accepts such anachronisms because it is difficult for him to see what contemporary living could be like. Modern domestic life demands privacy and, at the same time, an informal and flexible setting. Eighteenth-century technics provided admirable spaces for eighteenth-century living, but they are no longer adequate to-day.

The structural system developed at Hertford shows clearly what can be done. The fact that a "meccano set" has been produced instead of a ready made "doll's house" is the key to the twin problems of flexibility and variety.

All screens can be potentially free, spaces can be enclosed or opened at will, increased and decreased, and the entire internal shape of the building can change and change back again. A life with increased privacy and increased freedom of movement and association can be achieved in a smaller total volume. The mass production of "pre-fabs"—completely rigid shells unrelated to the site—not only forfeits the advantages of factory production but imposes an appalling uniformity. A system using relatively small and highly differentiated components makes for an almost unlimited variety of shapes. A new system would always be economic for a planned building programme. The danger of imposing one particular system would be avoided by a reasonable degree of industrial decentralisation. At all events, different systems would be needed for different regions and for different functions.

The unique combination of circumstances which resulted in the Hertfordshire schools marks a development in the understanding of architecture. The urgent need for schools and the shortage of traditional building materials coincided. The designing, therefore, developed in terms of a user requirement group and a technical group working simultaneously. The whole programme developed from an understanding of industrial techniques and an ability to see the potentiality of machine methods (a member of the group designed in the factory); from an understanding of the direction of educational development, and from a sensitivity to the client's need for an environment of widening experience. Machine production, education, and growing children, were related and seen as aspects of the whole process of living. Each member of the design group is obliged to see the whole process from whatever aspect with which he is concerned. The grouping becomes fluid, any member of the group may be concerned with a wide variety of activity—the development of steel structure for the entire fifteen-year programme, the production of working drawings for a single school, site supervision of another school,

and the development of school furniture. At the same time he is responsible for a complete school at all stages of production. In this way he is part of a number of constantly changing groups with responsibilities ranging from the general to the specific, from the development of a form to the development of an idea. Briefly, then, here is the genesis of group working in an industrial age. The re-orientation must be complete. It affects everything we do or think. The way we draw must be compatible with industrial forms—a move towards the diagram and the symbol. The way in which we learn to understand children must be a move towards our comprehension of growth and the vitality of life. At Hertfordshire a relatively crude and undifferentiated form of working has emerged. It will come to nothing unless it can develop. It is not enough to produce factory-made components for schools alone. Machine production is now universal. If the way in which a building component can be developed is limited by factors such as time ordering, a particular form of development is imposed upon the whole programme and the development of education and the child is restricted by the form of industrial development. Expediency takes control and synthesis is not achieved.

We have seen that when children work and play together in groups, their activity becomes more urgent if within it they see a social purpose. By constructing a trolley to take the morning milk from the kitchen to the classrooms, they add purpose and enjoyment to their work. As they grow older and their consciousness of the parent community increases they seek a wider field for their activity—a wider whole to which their activities can contribute. Girls of adolescent age may spend a large part of their time helping in a local nursery school, instead of being confined to their classrooms. In doing this they develop a fuller awareness of themselves and their importance to the community, and as they develop this self-confidence by looking after young children in the nursery school, they begin to understand the meaning of their own sex. In this way the field of activity which is the school is enlarged, the barrier between school and community is broken down and the life of both is enriched.

The economic success of the Hertfordshire scheme has been due to a planned programme and a higher degree of individuation and representation among all groups concerned. This has made close co-ordination possible. The many different trades and skills are sorting themselves out into independent groups.

There are already many different kinds of servicing engineers; for electricity, gas, water supply, air conditioning, and sanitation. Each team has a clearly defined part to play in understanding how its own work fits in with the other jobs and what part it plays in the whole design. The men who are going to instal the electric lighting, for instance, must be in consultation with the designers and manufacturers so that ease of installation and maintenance can be taken into consideration. Once all the various groups of manufacturers, installers, and designers are set up, a particular job can call on just those specialists it needs. Organisation becomes no more than the co-ordination of any particular grouping of specialists.

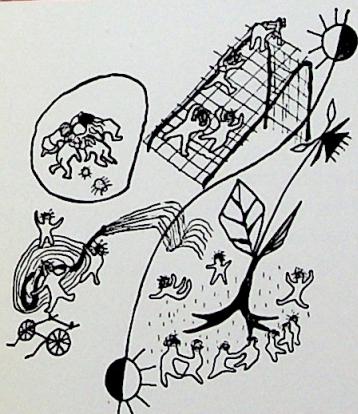
The Architect Group at Hertford, through its understanding of space, materials, and structure, can visualise developments in education which are not yet evident to the teacher or to the educationist.

The irregular form of teaching space developed at Hertford to encourage group activity was a development that could be visualised only by the architect and had wide repercussions in educational circles. At Hertford, designing has achieved the full relationship between the child and the techniques of industrial production, but at present the relationship is static; it is not developing. Development is looked on as subsidiary to design, and because of this situation, the development group has become isolated. This group realises that industrial technique must be developed as a whole in relation to all aspects of living. If it is restricted to the service of an isolated activity, and if the form of development is determined by limiting factors of expediency related solely to industrial technique, then it cannot be a whole development.

"We begin our life in unity—the physical unity of the mother and child, to which corresponds the emotional unity of love. We should build on that original unity, extending it first to the family, where the seeds of hatred are so easily and so often sown, and then to the school, and so by stages to the farm, the workshop, the village, and the whole community."

The work group is the only possible basis for the ordered and economic development of complicated techniques. Enthusiasm is the natural complement of understanding. The design and construction of the London bus (described in PLAN 5), demanded a high degree of group working. The men who design and build the prototypes of cars and buses, aeroplanes and radar, fully understand the function of their work. The Hertfordshire Schools Group has shown that the same can happen in the production of buildings. The system of prefabricated steel frame components was actually designed in the factory with the makers themselves.

Such close and productive co-operation can only be realised through the co-ordination of work teams; and the flexible organisation which results can accommodate and anticipate changing human needs far better than large centralised organisations which frustrate direct contact between people and suffer considerably when forced to change.



Being an architect will become one of the ways of living. Depending upon the way that a person directs his thoughts with others who are directing their own thoughts towards a particular activity, he will be amongst many other things a teacher, a builder, and an architect. Those who are concerned directly and are responsible within the community for the provision of shelter will interpret activities in terms of materials, structure and form. The architect as a teacher and as a builder will not only analyse activity in thought, he will also feel activity as rhythm. He will be conscious of growth and development; only by thinking, feeling, and doing, can he live and develop within himself, and within the community. The architect will be an artist-technician.

Gradually the child's growth makes itself felt throughout the community structure as he explores new sensations and becomes, through action, a more and more clearly differentiated being. Slowly he masters the art of summoning together all his faculties in active communication with others—first with his parents, then his fellow children, children from other places, his work companions, his wife, his own children—a growing cycle of contact and action.

Who then are his educators? Most important of all, of course, his parents. *"It is the apparently insignificant habits of the parents and the home which, at its most impressionable age, determine the direction of the child's growth and set the tenor for its future action."*

As the child grows, joining with other children in purposeful play, the teacher enters his life as the provider of means and of wanted information, the suggestor and guide. These two—the parent and the teacher—have direct responsibility for the child's development. But however fully they understand their roles in the child's growth, their efforts are in vain without the full co-operation of the architect, the doctor, the

poet, and the painter. The architect encloses space for growth—conceives spaces and structures as dynamic stimuli to movement and expression. The doctor seeing and treating the child for what he is—not an isolated individual to be protected from disease but the new growth of the family-organism—regards his health and his wholeness as an essential part of development. The poet and the painter do not work in isolation but stimulate through their own awareness the awareness of the community.

The full cycle is nearly turned; we are reaching once more, and in a far richer context, the local community with its poet writing his song for the local feast and festival; the painter, freed from his frame on the wall, colouring with his own vision the screens and active spaces of a living environment.

These are all our educators—through these people we grow in our health, our communication, our self-awareness. Growth through awareness, through contact and action—this is how our educators must see their task.

The need for contemporary shelter can only be satisfied by a building industry which has again become an organised function of social and community life.

This is only achieved by the practice of an economy based on *all* the needs of man, both material and spiritual, collective and individual.

Patrick Geddes was the prophet of a new "biotechnic" economy: "*. . . pointing to a civilisation in which the biological sciences will be freely applied to technology, and in which technology itself will be orientated towards the culture of life*".

The Hertfordshire schools are the product of a new attitude to life, and many aspects of their construction, as well as the designs themselves, are signs of this new economy. The function of a life economy is to regulate growth: if the product is to be fully related to human activities it must develop. Human activity leads to experience. Experience leads to the widening of activities. Each new form which really suits its function is the prototype of a further development. Ordered development of form, and not the form itself, is the measure of creative work. Such creative work is also the measure of social health. The co-ordination of craftsmen, scientist, administrator, and artist, is to the social organism as the integration of hand, mind, heart, and will is to the wholeness of a person.

Architects will be responsible for providing people with an environment with which they can develop their lives. A new technique of calculation, a new material, must all be related immediately to human living. The word "architect" will come to be a symbol for a group of men entering into a relationship from which the form of shelter emerges. The group will be a microcosm of the community. Knowledge of biology, of material, of industrial techniques and the services of the painter and sculptor, will all be co-ordinated and directed towards a synthesis in building. Every man will be an architect during the time when his knowledge and his understanding of living are directed towards the provision of shelter. Living people relating their specific knowledge to their common understanding of a human need—this is the new architecture.

Growth is the essence of life; where people live together in community the constant growth of its members is the driving force of change.

Education can now be seen for what it is—one aspect of the growth of community.

Education, like growth itself, is thus a life-long process.

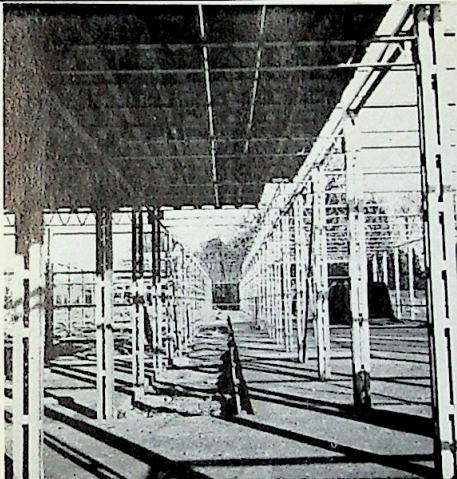
The play of a group of children, the co-operation of men in building, designing, farming—this is all education: the leading out of the individual in creative communication.

The infant's enjoyment of the form, weight, and movement of its own body, the delight in music, dance, colour, space, the fulfilment of mind and body in reproduction—all this is education: the process of becoming aware of oneself and one's environment.

The nature of education in society is constantly changing—changing as part of a profound rhythm of change.

And so it is this dynamic quality in education, as in life, which is its essence.

It must always be a direction. Never an answer.

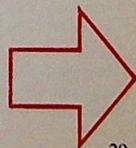


The opinions expressed throughout PLAN 6 are simply the ideas of the group of fifteen students who had a mandate to write it. They do not pretend to be a statement of the policy of Arch. S.A.

PLAN is presented, as it was written, with the intention of provoking thought, discussion, and action. It may seem that in terms of action our argument is incomplete in the sense that it is concerned only with action on the scale of the individual and the working group, the scale in fact upon which we have produced PLAN. We have not considered in detail the effect of such action on the form of society as a whole, nor have we referred to the ethical principles upon which society is based. We do not believe, however, that this omission invalidates any part of our argument. For it can be seen as a reflection of some of the deeper social divisions which we have described in the first half of the magazine. Some of the implications of our thesis at the level of group action which can be taken by our fellow students in all schools, are contained in the fourteen points for the reform of architectural education which first appeared in PLAN 5:

1. Students working as labourers on building sites.
2. Students working in factories and studying machine processes and techniques on the spot.
3. Joint programmes with students of other faculties, such as medicine, economics, sociology, engineering, and the natural sciences.
4. Collaboration with students of painting, sculpture, and the other arts from the beginning of design programmes.
5. Full contact between British students and those of other countries through travel, work abroad, and the exchange of books and exhibitions.
6. Student participation in public criticism of building and planning proposals.
7. Design programmes with sites and clients to which the student has access.
8. Technical courses based on and continually referring to fundamental human needs.
9. Workshops in the school, for the experimental study of materials and techniques.
10. Group working on design subjects.
11. Joint work between students of different years in the five-year course.
12. The study of architectural history as a fuller view of the present, rather than as an academic catalogue of forms, e.g., measured drawings should be produced not as a purely visual record of a building, but as a complete analysis of the form, function and structure of the building in its social context.
13. Substitution of formal lectures by free discussion wherever possible.
14. Control of the school curriculum by joint student-staff committees.

These fourteen points were adopted by the Arch. S.A. as a basis for discussion at its Oxford Congress last August.



scene

I was surrounded in a nightmare by pale earnest faces peering through the gloom. In a corner sat a thing, plugging plugs into sockets and unplugging them again, receiving calls from experts from many different lands and periods of time. To the left, a group of dungarees piling grains of sand one on top of the other. Suspended above them on a piano wire an architect checking the grains against full-size details.

In the distance, fifteen beards desperately squeezing ideas into a three-dimensional cage of pigeon holes labelled PLAN 6, in such a way that by standing on their heads they would see it as a whole. Through their beards came mutterings about "unitary thought" and declamations on the folly of dividing things into arbitrary compartments.

Chairman: We will discuss education.

Don: Pass the Oxford Dictionary—must find its definition.

Usher: Get out child! You're not wanted here.

A guillotine goes click in a corner—a child's head falls into someone's lap.

Voice: In this head there is a mind; in that mind there is a memory; we must train that memory.

Dr. Arnold: Nothing like Latin for training the memory.

Chorus: Send word to the teachers—give the little bastards something to remember.

Mr. Grit: (*Absent-mindedly.*) It hurts me more than it hurts you.

The guillotine goes click again—off falls a child's hand.

Voice: We'd forgotten that.

Mr. Trite: Some children are good with their heads—others are good with their hands.

Henry VI, Part II: (*In a loud voice.*) Thou hast traitorously corrupted the youth of the realm in erecting a grammar school.

Chairman: We are discussing hands at the moment.

Notice outside a clothing factory: (*In an aggressive voice.*)

HANDS WANTED.

Mark Twain: Soap and education are not as sudden as a massacre, but they are more deadly in the long run.

Mr. Lever: Who mentioned soap? Teach them hygiene.

Mr. Fit: And physical jerks.

Aged Field Marshal: Better make it drill.

Rev. Blah: Talking of soap—cleanliness is next to godliness. Teach them to read the bible—but not Karl Marx.

Chorus: Send word to the teachers—teach the children how to read the bible without being able to read Karl Marx.

A glow-worm switches itself on, throwing light on a naked child standing in the centre.

Startled voice: Quick! Fetch a fig leaf—he might discover he's got a . . .

Chorus: Shshshshsh! Send to the teachers a consignment of fig leaves with instructional handbooks on their proper use.

Mr. Moss: Better make it school uniforms.

Chairman: We will now discuss discipline.

Voice: Let's have free discipline.

St. Paul: When I became a man I put away childish things.

Chairman: That is irrelevant.

President of the Society for the Retention of Corporal

Punishment: There is no better method of knocking silly

ideas out of children's heads than the time-honoured practice of caning them on their bottoms.

Bismark: You can do anything with children if you play with them.

Frederick the Great: An educated people is easily governed.

Latin proverb: (*Calling from Ancient Rome.*) He conquers who conquers himself.

Chorus: Send word to the teachers—teach the children to conquer themselves.

Mr. Grit: That's what I meant by character training.

Conan Doyle: They ragged and fought as schoolboys ought.

And learned to play the game.

You can act the fool at an English school,

But it builds you just the same.

Wordsworth: The child is father to the man.

Mr. Trite: Of course he is. He's got to be a citizen.

Chorus: Send word to the teachers—lecture them in citizenship.

Mr. Trite: He's got to live a full life.

Dr. Arnold: The Greeks lived full lives.

Chorus: Send word to the teachers—teach them how the Greeks lived.

Rev. Blah: But don't forget the fig leaves!

Mr. Ford: I don't want my factory workers to know how the Greeks lived.

Chorus: . . . for consumption of upper-class children only.

Mr. Trite: Talking about consumption—health means wholeness.

Chorus: Of course it does. Give them medicine and dental inspections.

Chairman: The architects present will now have a clear idea of the aims of education.

Portland Bill, F.R.I.B.A.: Precisely. Education has its roots not only in the classicism of Greece but also in the romanticism of the monastic tradition. These are the bricks and mortar of the spirit of our age, which we must distil into freely flowing spaces. This is the crisis we must review!

Mr. John Bitumen: (*Aside.*) That reminds me—the *Review's* next number's devoted to "Horse Brasses"; that may help a bit.

Mr. Ariba: This is the newly monumental empiricism. *The dungarees have been bricking up a child in the corner.*

Child: Help! Let me out!

Builders: Shut up—it's according to the plans.

Architect: Ignorant criticism doesn't help. From where you are you cannot possibly appreciate my elevations. *The child moans.*

Chairman: Talking about architecture . . .

Architects: (*In chorus.*) You can't do that. It is our privilege to be inarticulate.

Bearded voices: (*From the cage.*) Architecture is the differentiated integration of the environmental cosmos in the four dimensions of space-time, for the biological functioning of the organism—which needs peace.

Uproar: We will dissociate our association from those sentiments and from everything that has anything to do with anything that has nothing to do with architecture—especially politics.

The Chairman quickly declared the meeting over. Some departed for a game of "hunt-the-witch" before retiring. Others preferred "hide-and-seek" in one another's ivory towers.

All was quiet but for the sobs of the child and the beards baying at the moon.

"Without contraries is no Progress"

There can be no love of the good without hatred of the evil, no work without rest, no knowledge without inspiration of the source, and no health without pain.

We have found separate words for these contraries, we have attempted to divide them. We call hate, pain, work, and inspiration Evil; we have tried to possess the Good alone. When we try to love without protecting that love with hatred it gives way to apathy; the contrary of apathy is hysteria, perverted hate.

We have not succeeded in escaping the obligations of life, we have merely reversed the process: from growth to self-destruction. Hysteria and apathy have replaced love and hate; violence and idleness, rest and work; crime and ignorance, knowledge and vision; vice and disease, health and pain.

We live in a universe, a continuity of matter and energy. But we no longer see a tree as a flower of the earth; we do not see, as a child sees, their indivisible unity. We see a tree and the soil and wonder how they came to be together. It seems that we are only interested in facts. We are overwhelmed by innumerable trees; we only look outwards from within, we cannot see the wood as a whole, we are incapable of looking inwards from without. As we go deeper into the wood the horizon draws in about us.

We do not see a universe any more; we see an ever-increasing mass of facts, parts separated out from the whole and never replaced. Our unlimited store of analytic knowledge serves only to increase our confusion, for, having lost sight of the whole, every new fact complicates and deepens the mystery.

We cannot understand the chaos we have created for it has no form. The darkness of the unknown expands and we grow more and more afraid.

We become more and more desperate in our attempts to impose artificial systems, we lie to ourselves in order to make the facts fit. Our ideals and utopias are invariably static, denials of the inevitable change that all life brings. We are afraid of change, for it brings with it new problems smashing our vain hopes for a perfect world. We murder the great visionaries and pervert their doctrines—Socrates, Jesus, Marx; the consequence is always destruction.

Our problem is to simplify, to re-discover the essential whole world of the child; not by throwing away our accumulated experience, but by relating it to a common factor. We want no more complicated, arbitrary, and static systems. Our faith is founded on a belief that the healthy life is a creative and self-regulating process. This is our common denominator, and as we relate our knowledge to it we shall perceive more clearly our only law—natural law, that which is disobeyed only by man. As we perceive this, our life will become meaningful and we shall maintain the effort of guiding its creative force.

DIAGRAM INDEX

The three horizontal chapters, Building, Architecture, and Education, which run simultaneously through the magazine, may be read in the usual way (i.e., vertically down the pages). Each chapter may also be read separately as a horizontal section of the magazine.

BUILDING

ARCHITECTURE

EDUCATION

Our inability to see the world as a whole has brought about the present chaos which we perpetuate by our refusal to accept change.

2	BEGINNING			
4	The building industry has failed.	The architect has failed	Education has failed.	4
5	Building to-day is uneconomic and unrelated to social needs.	The architect is an isolated specialist.	Education is divorced from life.	5
7	There is no co-ordinated building team.	The architect's mind is divided.	The educational system has broken down	6
7	Building is carried out by many conflicting parties.	The architect is a destroyer.	Present education has the wrong aims.	7
8	Building technics have not developed with the rest of industry.	The architect's design methods inhibit development.	The school is isolated from the community.	8
9	Present building methods do not satisfy contemporary needs.	The architect does not understand the present situation.	School life is divided from adult life.	9
10	Industrial techniques, where used, are misapplied.	The design group has broken down.	The school is divided within itself.	10
11	The building industry is backward.	The architect does not communicate.	The school structure inhibits the child's development.	11
12	The worker has become an isolated unit, a "hand".	Architecture is divorced from life.	The child is isolated.	12
13	The worker is cut off from his fellows: he is alone.	Retarded architecture inhibits contemporary social life.	The child is alone.	13
14	There is no joy in work which is unrelated to personal life.	The architectural profession is isolated within society.	The child is educated piecemeal.	14
15	The lonely individual is unhappy and neurotic.	The architectural profession has failed.	The child dies.	15

ARGUMENT Dissociation and isolation are the symptoms of disordered expansion. Wholeness lies in the unity of opposites. Integration and differentiation are the twin aspects of growth.

18	Responsible, productive work is essential for health.	The architect must approach and understand the whole problem.	Mind, hand, and heart unite in the child.	18
19	There is a growing demand for creative work.	Groups must form to tackle new problems.	Education is the leading out of all the child's faculties.	19
20	Responsible work is possible in a decentralised economy.	Architecture must be integrated with life.	The child grows up with his friends.	20
21	Workers are establishing work teams.	Architecture, reflecting life, stimulates it.	The child becomes confident and aware.	21
22	Efficient building depends on the proper use of technics.	The Herts. schools architects started to work as a group.	The Herts. schools stimulate children.	22
24	The Herts. schools show a new direction in building technics.	The architect must create through collaboration.	School life must become a part of community life.	24
25	The schools begin a new economy.	The schools group have seen their problem as a whole.	Education must be through participation in community life.	25
27	The work team is the basis of the real economy.	The architect must be fully aware.	The architect is an educator.	27
28	Real economy is a life economy.	Architecture is a synthesis of knowledge and living.	Education is a lifelong process.	28

CONCLUSION **SCENE—a nightmare.**
 "Without contraries is no Progression." We must regain our sense of the universe and accept the whole of life that it may become healthy and creative.

BOOKS

Cities in Evolution—Patrick Geddes
 The Peckham Experiment—Pearse and Crocker
 Between Man and Man—Martin Buber
 The Function of the Orgasm—Wilhelm Reich
 The Education of Free Men—Herbert Read
 The Culture of Cities—Lewis Mumford
 Mechanisation Takes Command—Siegfried Giedion
 Fields, Factories, and Workshops—Peter Kropotkin
 Wage labour, and Capital—Karl Marx
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ACKNOWLEDGMENT

people

These people have helped us to produce this number of *PLAN*; they do not necessarily share any of the views we have expressed: Members of the Hertfordshire County Council Architects' and Education Departments, and Divisional Executive Offices. The contractors, clerks of works, foremen, and operatives erecting Hertfordshire schools. The Principals, teachers, caretakers, and other staff, and the children in the Hertfordshire schools—new and old—we have visited.

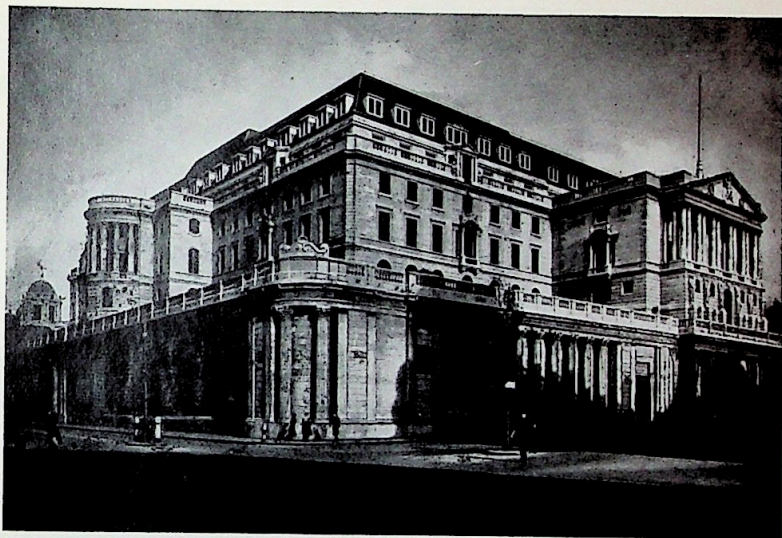
	Page	Position	Source
quotations	4	building	L. L. Whyte—The Next Development in Man
	7	architecture	W. Blake—Songs of Experience
	11	architecture	W. Gropius—The New Architecture and the Bauhaus
	12	architecture	L. Mumford—The Culture of Cities
	14	building	K. Marx—Wage labour, and Capital
		architecture	R. Townsend—Focus 4
		education	M. L. Jacks—Total Education
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	27	education	Pearse and Scott-Williamson—The Case for Action
	28	building	L. Mumford—Culture of Cities
	1	(frontispiece)	David Moore, Sydney, Australia
	3	education	Keystone
	7	architecture	Fox photos
	9	building	De Havillands
All the other photographs were taken specially for this number of <i>PLAN</i> by Harry Spencer.	13	building	Fox photos
		architecture	Fox photos
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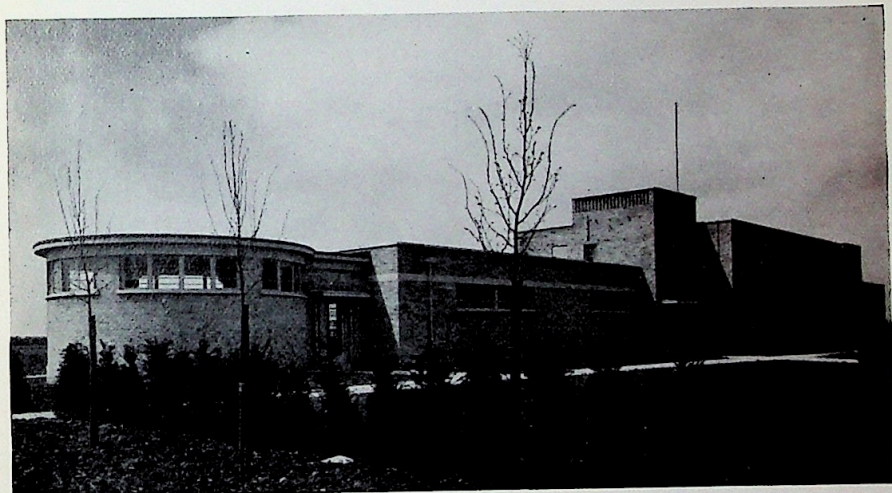
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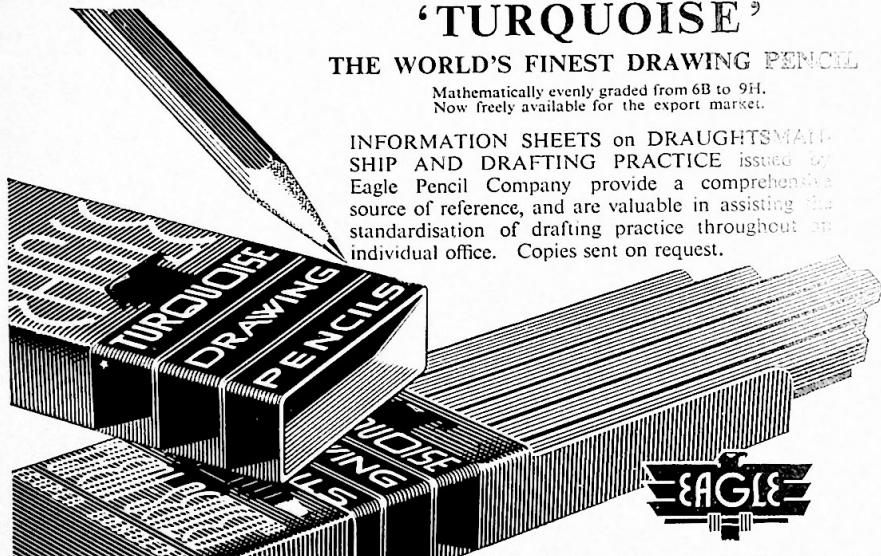
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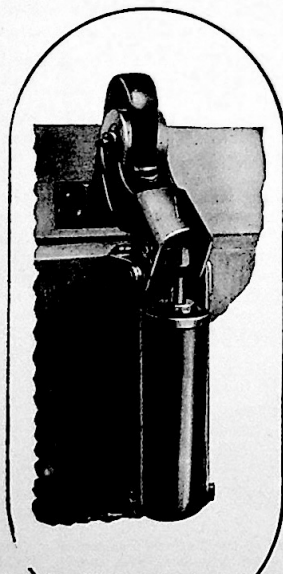
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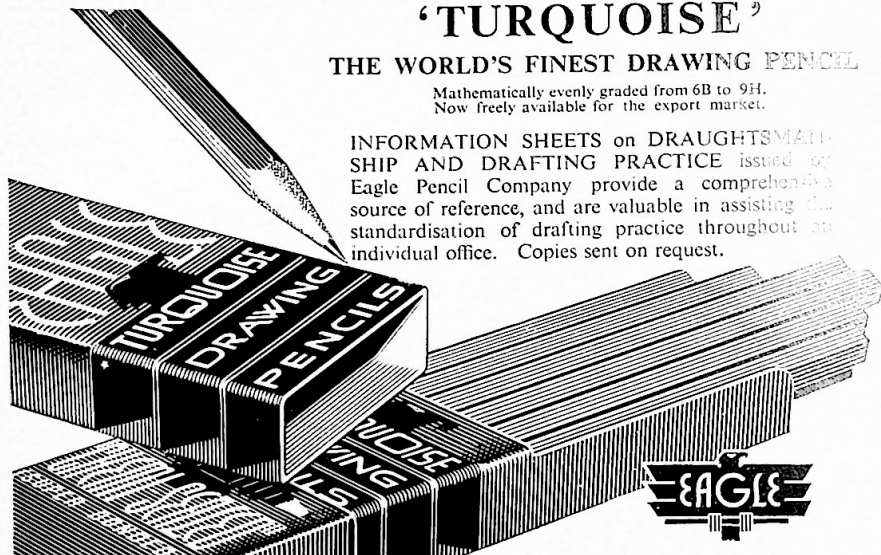
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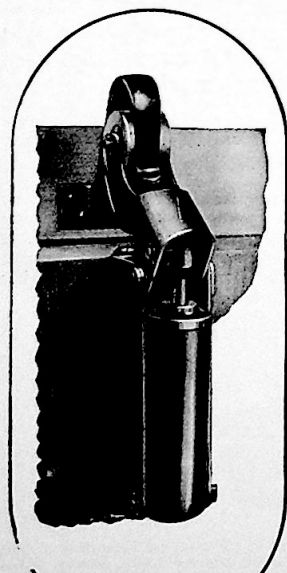
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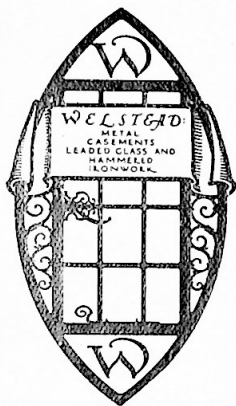
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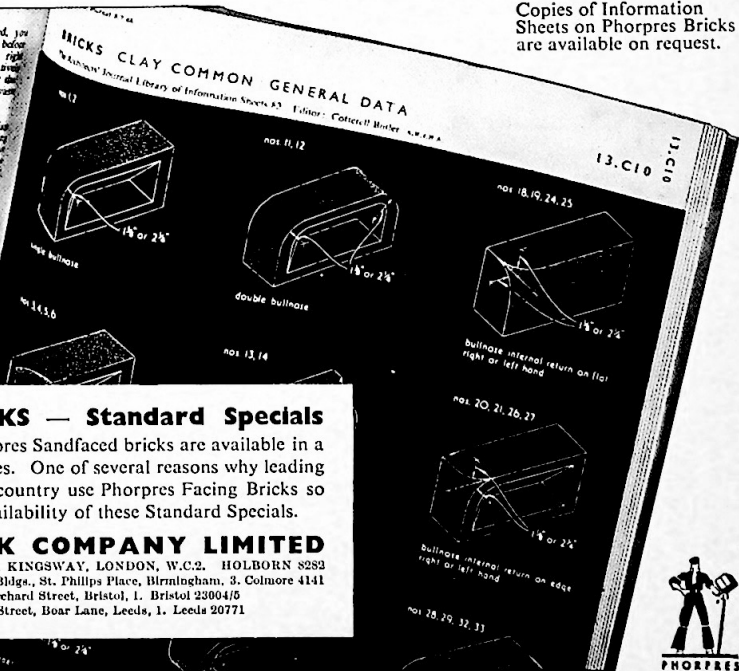
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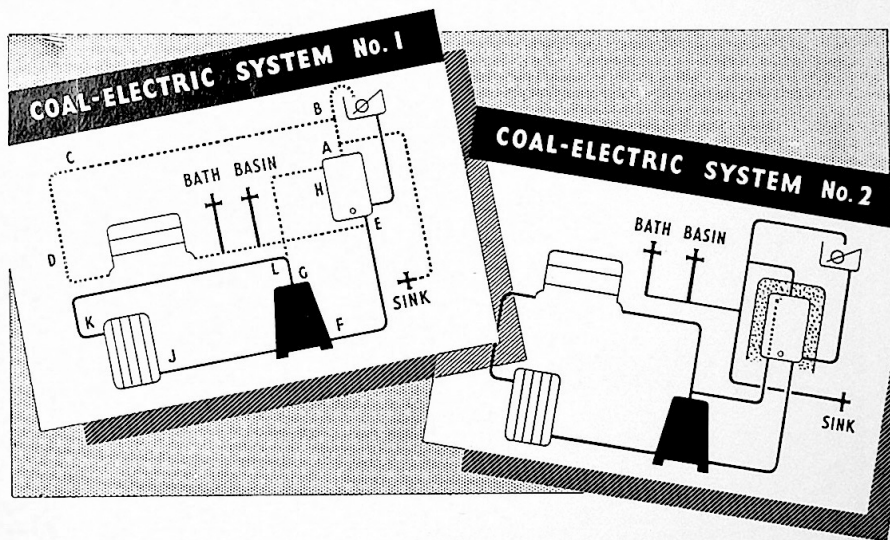


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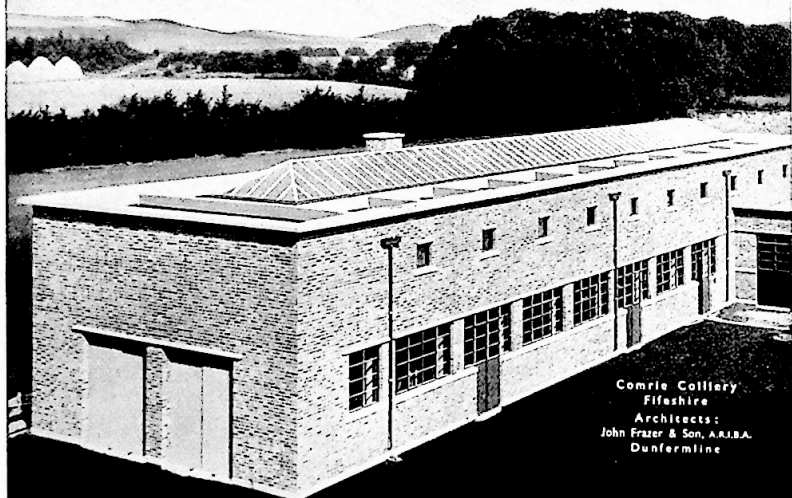
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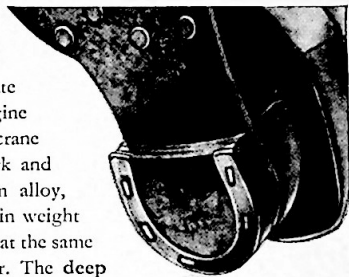
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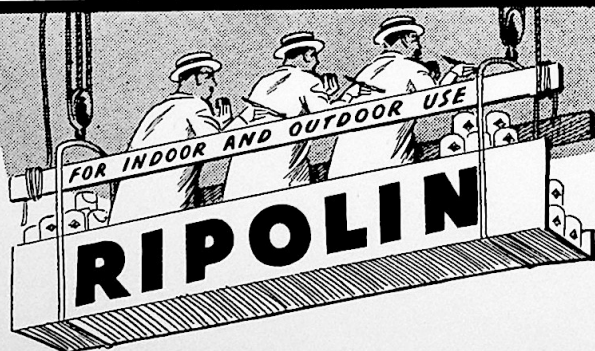
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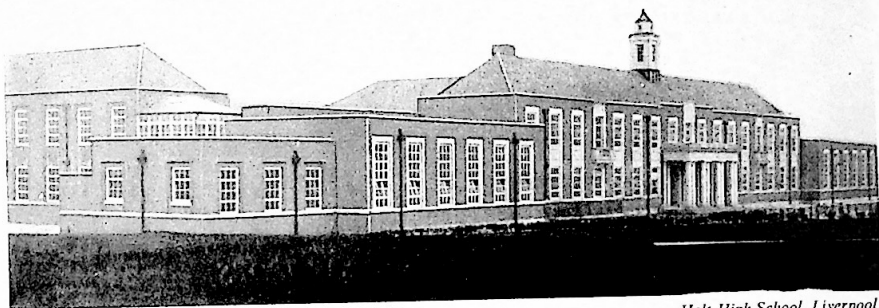
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